

ABSTRACT

The present invention provides several embodiments that ultimately result in the
5 *in vivo* loading of endogenous antigenic peptides from a target cell. The invention also
presents a method for inducing an immune response to an endogenous antigen in a subject
by delivering an effective amount of an agent that stimulates *in vivo* loading of the
endogenous antigen into an Antigenic Peptide Binding Protein (“APBP”). The APBP
presents the endogenous antigen to a T cell *in vivo*. A polynucleotide encoding an APBP
10 is delivered to a target cell under conditions such that the APBP is expressed in the target
cell. Endogenous antigenic peptides bind the APBP forming an APBP:peptide complex.
A cytotoxic agent also is administered to the subject and delivered to the target cell in an
amount effective to lyse the target cell which releases the complexes. The complexes
present the antigenic peptide to a T cell or an antigen presenting cell (APC) which mounts
15 the immune response. An effective amount of an antigen presenting cell (APC)
recruitment factor can be administered to the subject to recruit APC to the locus of the
target cell. APCs take up the APBP:peptide complexes and the peptides are processed
and presented by MHC molecules to T cells *in vivo*.